



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,689	03/06/2002	Bojana Gajic	2001-0105	7430
26652	7590	09/22/2005	EXAMINER	
AT&T CORP. P.O. BOX 4110 MIDDLETOWN, NJ 07748			PIERRE, MYRIAM	
			ART UNIT	PAPER NUMBER
			2654	

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/091,689	Applicant(s) GAJIC ET AL.	
	Examiner Myriam Pierre	Art Unit 2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicants arguments, filed 04/14/2005 regarding the Office Action of 02/17/2005. Applicant amends claims 1, 2, 4-14, added claims 15-20; satisfies double patenting rejection and objection of claims 1 and 14; and submits a terminal disclaimer.

### ***Response to Arguments***

2. Applicant's arguments filed 04/14/2005 have been fully considered but they are not persuasive.

Applicant argues that Gong (6,418,411) does not disclose or suggest the features of claim 1, Examiner respectfully disagrees. Gong discloses the features of claim 1 by consistently adjusting the acoustic models to accommodate to the change in background noise, col. 5 lines 29-31. This feature discloses or suggests the claimed feature of repeatedly determining parameters of background model based on sampled information, the periodic interval is found in Fig. 2, using a 0.3 delay during received voice samples (Fig. 1). Gong discloses determining parameters of a transducer model by modeling the microphone or speaker, col. 5 lines 24-25, through the calibration phase, the recognizer learns to adapt to microphone and speaker, thus the transducer is modeled based on parameters by distinguishing and calibrating based on the transducer type: microphone or speaker.

Applicant argues that Digalakis et al. (5,864,810) fails to satisfy the deficiencies of Gong. Examiner respectfully disagrees. Gong discloses a ASR and discloses

calibration, which means that the data under consideration is now re-evaluated, can this be a type of re-scoring? Gong discloses calibrating in order to reduce mismatch between the training data and the testing environment, (col. 5 lines 5-10), this is a way of improving recognition performance. Digalakis discloses re-scoring for the purpose of improve recognition performance for non-native speakers of American English, col. 13, lines 29-30. Examiner believes that Digalakis et al. satisfies the deficiencies of Gong, both are disclosing a method for improving speech recognition via either calibration/rescoring. Hence, one would be motivated to develop a method of dynamically re-configurable speech recognition by knowing the methods of re-scoring/calibrating ASR to improve the recognizer, both disclosed by Gong and Digalakis et al.

Applicant argues that since claim 4 depends on claim 1, Gong in view of Digalakis et al., for at least the reasons given with respect to claim 1, requests that the rejection of claim 4 be withdrawn. Examiner respectfully disagrees. Claim 4 depends on claim, not on claim 1. Examiner is confused as to the dependency of claim 4. Either way, Gong teaches background noise is recorded and estimated, col. 2, lines 43-44; and col. 5 lines 24-34, thus, Gong discloses the method of claim 4 which depends on claim 2.

Applicant argues that claim 5, a controller adapted to adjust a periodic time interval based, at least in part, on changes in the collected sampled information, applicant request that rejection of claim 5 be withdrawn because Applicant argues that claim 5 is patentable over Gong and Digalakis for at least the reasons similar to those

provided with respect to claim 1. Examiner points back to the arguments presented above in regards to denial of patentability of claim 5.

Applicant argues that claim 8 depends on claim 5 and is patentable over Gong and Digalakis for at least the reasons provided with respect to claim 5, and requests that the rejection of claim 8 be removed, Examiner respectfully disagrees. Claim 8 is a depend claim of the parent claim 5, and applicant argued that the reasons claim 5 where patentable over Gong and Digalakis was for at least the reasons similar to those in claim 1, Examiner stands on the rejection of claim 1 as well as it's dependent claims, thus since Applicant argues that patentability of claim 5 is for similar reasons as claim 1, then claim 5 also un-patentable based on the reasons given in claim 1 above.

Applicant argues that claims 9, 10 and 13 is patentable over Gong and Digalakis for at least the reasons similar to those provided with respect to claim 1, Examiner disagrees because Gong discloses calibrating in order to reduce mismatch between the training data and the testing environment, (col. 5 lines 5-10), this is a way of improving recognition performance. Digalakis discloses re-scoring for the purpose of improve recognition performance for non-native speakers of American English, col. 13, lines 29-30. Examiner believes that Digalakis et al. satisfies the deficiencies of Gong, both are disclosing a method for improving speech recognition via either calibration/rescoring. Hence, one would be motivated to develop a method of dynamically re-configurable speech recognition by knowing the methods of re-scoring/calibrating ASR to improve the recognizer, both disclosed by Gong and Digalakis et al. Therefore, the rejection of

claims 9-10 and 13 stand rejected, as well as the dependent claims which are further addressed in the claimed rejection below.

Rejection of claims 2, 6 and 10

Applicant argues that the amended claims obviate the rejection, and that claim 2 is patentable over Gong in view of Digalakis for at least the reasons provided with respect to claim 1, Examiner respectfully disagrees that claim 1 is patentable over Gong in view of Digalakis, see arguments regarding claim 1. Applicant argues that claims 6 and 10 are patentable over Gong in view of Digalakis for the reasons provided with respect to claims 5 and 9, Examiner respectfully disagrees, claims 5 and 9 reasons for patentability was based on claim 1, which is not patentable because both Gong and Digalakis provide motivation for improving ASR by re-scoring/calibrating the background model or transducer, (Gong) col. 5 lines 13-15 and 24-30; and (Digalakis et al.) col. 13, lines 38-46, respectfully.

Applicant argues that for claims 6 and 10, periodically determining a new transducer model is not disclosed or suggested either separately or in combination. Examiner respectfully disagrees. Moreover, Applicant argues that Thrasher fail to disclose or suggest, either separately or in combination, the feature required by claim 10. Examiner respectfully disagrees. Gong discloses the features of claim 10 by consistently adjusting the acoustic models to accommodate to the change in background noise, col. 5 lines 29-31. Thus Gong discloses or suggests the claimed feature of repeatedly determining parameters of background model based on sampled

information, the periodic interval is found in Fig. 2, using a 0.3 delay during received voice samples (Fig. 1). Gong discloses determining parameters of a transducer model by modeling the microphone or speaker, col. 5 lines 24-25, through the calibration phase, the recognizer learns to adapt to microphone and speaker, thus the transducer is modeled based on parameters by distinguishing and calibrating based on the transducer type: microphone or speaker.

Applicant argues that Digalakis et al. fail to disclose or suggest the feature required in claim 10, Examiner respectfully disagrees. Digalakis discloses re-scoring for the purpose of improve recognition performance for non-native speakers of American English, col. 13, lines 29-30. Examiner believes that Digalakis et al. satisfies the deficiencies of Gong, both are disclosing a method for improving speech recognition via either calibration/rescoring.

Applicant argues that Thrasher fail to disclose or suggest the feature in claims 6 and 10. Examiner disagrees. Thrasher discloses confidence scoring, (confidence measure, col. 3, paragraphs 0035-0036) after applying speech recognition model (language model, Fig. 2, element 110) to determine whether the generated word lattices (page 3 paragraph 36) are acceptable (identifiers indicating which patterns may have been improperly identified, col. 3, paragraphs 0035-0036; acoustical score that measures the "acceptability" of word lattices). Therefore Thrasher discloses in combination with Gong and Digalakis the feature of claim 10 in order to identify proper patterns, thus providing an accurate recognizer (Thrasher et al., col. 3, paragraph 0035). Gong (col. 5 lines 29-31), Digalakis (col. 13, lines 29-30), and Thrasher (page 3

paragraphs 35-36) are providing a more accurate ASR via re-scoring (confidence scoring), or calibration. Therefore, the rejection of claims 2, 6 and 10 stand rejected, as well as their dependent claims, which are further addressed in the claimed rejection below.

Rejection of claims 3, 7, and 11

Applicant argues that Gong in view of Digalakis and Thrasher, and in further view of Waibel et al. obviates the rejection of claims 3, 7 and 11, Examiner respectfully disagrees. Gong in combination with the speech recognition systems of Digalakis et al. and deVries into Thrasher's method so that the confidence score is compared to a predetermined threshold value to repair misrecognition of speech. (Waibel col. 1, lines 9-12). Thus, the underlying theme is to improve ASR via scoring/calibrating models.

Applicant argues that Thrasher and Waibel fails to satisfy the deficiencies of Gong and Digalakis, however, Examiner respectfully disagrees. Thrasher et al. discloses confidence measure, col. 3, paragraphs 0035-0036, to language model, Fig. 2, element 110, to determine whether the generated word lattices (page 3 paragraph 36) via identifiers indicating which patterns may have been improperly identified, col. 3, paragraphs 0035-0036; acoustical score that measures the "acceptability" of word lattices) in order to identify proper patterns, thus providing an accurate recognizer. (Thrasher et al., col. 3, paragraph 0035). Waibel et al. discloses a threshold value to determine to perform the automatic speech recognition process again (repeat again, col. 1, lines 56-59) in order to repair misrecognition of speech. (Waibel col. 1, lines 9-12). Thus Thrasher and Waibel satisfy the deficiencies of Gong and



Digalakis, the rejection of claims 3, 7 and 11 stand rejected, as well as their dependent claims which are further addressed in the claimed rejection below.

New claims 15-20 are rejected below.

***Terminal Disclaimer***

a. The terminal disclaimer filed on 04/14/2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of 09/972,929 has been reviewed and is accepted. The terminal disclaimer has been recorded.

***Claim Rejections - 35 USC § 103***

2. Claims 1, 4-5, 9-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gong (6,418,411) in view of Digalakis et al. (5,864,810), in further view of deVries (6,289,309).

As to claims 1, 9, and 13-14, Gong discloses a method and computer readable program code usable to program computer to perform a method of dynamically re-configurable speech recognition and a carrier wave encoded to transmit a control program usable for dynamic re-configurable speech recognition to a device for execution the control program comprising:

repeatedly (continually) determining parameters of a background model based on sampled information collected at periodic time interval (Fig. 2, 0.3 delay, col. 2 lines 35-45) during a received voice request {incoming utterance} (produce an adapted model based on inputs from on-line noise estimations (background adaptation) and one-time

Art Unit: 2654

adaptation (transducer model), incoming utterance, col. 1, lines 42, 59-63, col. 2, lines 44-50 and Fig. 1, elements 11 & 20).

determining parameters (noise sample and utterance) of a transducer model (microphone or speaker) (Fig. 2; col. 5 lines 24-25);

determining a speech recognition model based on at least one of the background model (background noise) (Fig. 1 element 21 recognition, element 19 background noise, and col. 2 lines 59-61 steps 4-5)

Gong does not teach of rescoring ASR.

However, Digalakis et al. teach

re-scoring automatic speech recognition using the speech recognition model comprising:

generating word lattices representative of speech utterances in he received voice request (col. 11, lines 40-44);

concatenating the word lattices into a single concatenated lattice (sentence hypothesis necessarily implies word lattices, co. 13, lines 45-46);

applying at least one language model (language model) to the single concatenated lattice in order to determine word lattice inter-relationships (col. 13, lines 38-46); and

determining information in the received voice request based on he re-score results of the speech recognition model (rescoring the N-best sentence hypothesis, col. 13, lines 45-46).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Gong's method of speaker adaptation by re-scoring ASR that generates and links words in order to improve recognition performance for non-native speakers of American English, as taught by Digalakis et al., col. 13, lines 29-30.

Neither Gong nor Digalakis et al. explicitly teach adjusting the periodic time interval based on the determined changes in the sample.

However, DeVries et al. teaches  
adjusting the periodic time interval based on the determined changes in the sampled information (col. 6 lines 10-24).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Gong's speech recognition system with Digalakis et al. speaker identification in order to produce deVries's noise tracking system that determines the effective time window in real time, so as to adapt to environmental changes in noise. (deVries, col. 6 lines 18-23).

As to claim 4, Gong discloses all the limitations of claim 2 upon which claim 4 depends on, Gong further discloses:

saving at least one of the parameters of the background model and the transducer model (background noise is recorded and estimated, col. 2, lines 43-44; and col. 5 lines 24-34).

determining the adaptation speech recognition model (adaptation of HMM for speaker and acoustic environment, col. 1, lines 38-40) based on at least one of the

background model (background model is determined based on the samples taken during the sample period, col. 2 lines 43-45 & element 18, Fig. 1).

As to claim 5, Gong discloses a system for dynamically re-configurable speech recognition comprising:

estimation and adaptation (adaptation of HMM and estimation channel, col. 1, lines 36-39 & 61-64), which would necessarily be implemented in a circuit device (cellular phone, col. 1, line 15).

The rest of the limitations of claim 5 are rejected are the same or similar, and therefore are rejected for the same reasons as claim 1, 9, & 13-14 above.

As to claim 10, Gong discloses all the limitations of claim 9 upon which claim 10 depends on, Gong further discloses:

instructions for periodically determining a new transducer model based (col. 5 lines 24-34).

As to claim 11, Gong discloses all the limitations of claim 10 upon which claim 11 depends on, Gong further discloses:

the parameters of the background model are determined based on a first sample period (sample period for background noise is determined before speech utterance, Fig. 2);

the parameters of the transducer model are determined based on a second sample period (sample period for transducer model takes place during one-time adaptation (calibration), which takes place before on-line adaptation and thus inherently requires a second, distinct sampling, col. 5, lines 23-28)

As to claim 12, Gong discloses all the limitations of claim 10 upon which claim 12 depends on, Gong further discloses:

inherent instructions for saving at least one of the background model (background noise is recorded and estimated, col. 2, lines 43-44; and col. 5 lines 24-34).

inherent instructions for determining the adaptation speech recognition model (adaptation of HMM for speaker and acoustic environment, col. 1, lines 38-40) based on at least one of the background model (background model is determined based on the samples taken during the sample period, col. 2 lines 43-45 & element 18, Fig. 1).

As to claims 15 and 17, Gong discloses all the limitations of claims 1 and 5, respectfully, upon which claims 15 and 17 depends on, Gong further discloses:

repeatedly determining the parameters of the transducer model (col. 5 lines 28-34).

As to claim 16, Gong discloses all the limitations of claim 5 upon which claim 16 depends on, Gong further discloses:

the transducer model estimation circuit (necessary circuit in recognizer, col. 5 lines 24-32 and col. 1 line 15 and 31-34) is configured to repeatedly determine the transducer model at the periodic time interval (Fig. 2 0.3 delay, col. 2 lines 35-45).

As to claim 18, Gong discloses all the limitations of claim 14 upon which claim 18 depends on, Gong further discloses:

determining the parameters of the transducer model (col. 5 lines 28-34).

Neither Gong nor Digalakis et al. explicitly teach adjusting the periodic time interval based, at least in part, on the collected first sampled information.

However, DeVries et al. teaches

adjusting the periodic time interval at least in part, on the collected first sampled information (col. 6 lines 10-24; DeVries would necessarily use the first sampled information in a real-time application in order to readily determine the noise level changes which are analyzed using the forgetting factor in order to readily adapt to the changes in noise level).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Gong's speech recognition system with Digalakis et al. speaker identification in order to produce a noise tracking system that determines the effective time window in real time, so as to optimally predict the noise power for the next frame because in an automobile environment, passing cars or the shifting of gears may introduce short-term non-stationary noise. (deVries, col. 6 lines 18-23).

As to claim 19, Gong discloses all the limitations of claim 14 upon which claim 19 depends on, Gong further discloses:

interval of sample (Fig. 2).

Neither Gong nor Digalaks et al. explicitly teach adjusting the length of the intervals.

However, DeVries teach

adjusting the length of the first periodic intervals based, at least in part, on a frequency (amplitude-frequency product, Treager energy, room noise and speech, noise update speech frame, forgetting factor predict noise power) of determined changes successively sampled ones of the first sampled information (adapt real time, forgetting factor, to predict noise power for the next frame, col. 8 lines 2-6, 21-24; col. 5 lines 48-51, col. 6 lines 2-4, 10-11, 20-23).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Gong's speech recognition system with Digalakis et al. speaker identification in order to produce DeVries's adjusted interval of frequency samples, so as to optimally predict the noise power for the next frame. (deVries, col. 6 lines 18-23).

3. Claims 2, 6, 8, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gong (6,418,411), in view of Digalakis et al. (5,864,810) in further view of deVries (6,289,309), as applied to claim 1, and in further view of Thrasher et al. (2002/0052742).

As to claims 2 Gong discloses all the limitations of claim 1 upon which claim 2 depends on, Gong further discloses:

Gong teaches speech recognition modeling (Fig. 1 element 21).

Neither Gong nor Digalakis et al. nor deVries explicitly teach confidence score to generate word lattices.

However, Thrasher et al. teach generating a confidence score (confidence measure, col. 3, paragraphs 0035-0036) after applying speech recognition model (language model, Fig. 2, element 110) to determine whether the generated word lattices (page 3 paragraph 36) are acceptable (identifiers indicating which patterns may have been improperly identified, col. 3, paragraphs 0035-0036; acoustical score that measures the "acceptability" of word lattices).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Gong's models with Digalakis et al. speech recognition and deVries noise speech enhancement such that it generates a confidence score, to identify proper patterns, thus providing an accurate recognizer. (Thrasher et al., col. 3, paragraph 0035).

As to claim 6, Gong discloses all the limitations of claim 5 upon which claim 6 depends on, Gong further discloses:

speech recognition modeling (Fig. 1 element 21).



However, Thrasher et al. teach  
generating a confidence score (confidence measure, col. 3, paragraphs 0035-0036) after applying speech recognition model (language model, Fig. 2, element 110) to determine whether the lattices (page 3 paragraph 36) are acceptable (identifiers indicating which patterns may have been improperly identified, col. 3, paragraphs 0035-0036; acoustical score that measures the "acceptability" of word lattices).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Gong's models with Digalakis et al. speech recognition and deVries noise speech enhancement such that it generates a confidence score, to avoid poor recognition quality. (Thrasher et al., col. 3, paragraph 0035).

As to claim 8, Gong discloses all the limitations of claim 6 upon which claim 8 depends on, Gong further discloses:

saving at least one of the parameters of the background model and the transducer model (background noise is recorded and estimated, col. 2, lines 43-44; and col. 5 lines 24-34).

determining the adaptation speech recognition model (adaptation of HMM for speaker and acoustic environment, col. 1, lines 38-40) based on at least one of the background model (background model is determined based on the samples taken during the sample period, col. 2 lines 43-45 & element 18, Fig. 1).

As to claim 20, Gong discloses all the limitations of claim 14 upon which claim 20 depends on, Gong further discloses:

speech recognition, but neither Gong nor Digalakis et al. explicitly teach confidence scoring.

However, Thrasher et al. teach

generating a confidence score after applying the speech recognition model to determine whether the generated word lattices are acceptable (confidence measure based on probable sequences provided as a result of lattice, lattice have a lexical word, in recognized speech and acoustic score, page 3 paragraphs 34-36);

comparing the confidence score to a predetermined value (page 3 paragraphs 32 and 35-36 and page 4 paragraph 40; user predetermines the value of the confidence score via listening to the results, user does comparison); and

repeating automatic speech recognition (re-launch) of the received voice request based, at least in part, on a result of the comparing of the confidence score with the predetermined value (edit recognition of speech, user re-launches application, reinitializes hypothesis, page 4 paragraph 40; user edits to reinitialize hypothesis if there is a problem with confidence score and the predetermined value).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Gong and Digalakis et al. speech recognition model to produce Thrasher et al.'s N-best alternatives in speech recognition because the engine is never considering more than a predetermined maximum number of sub-paths, thus allowing for quicker processing (Thrasher et al., page 1 paragraph 9).

4. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gong (6,418,411), in view of Digalakis et al. (5,864,810) and deVries (6,289,309), in view of Thrasher et al. (20020052742), as applied to claims 2 and 6, and in further view of Waibel et al. (5,712,957).

As to claims 3 and 7, Gong discloses all the limitations of claims 2 and 6 respectfully, upon which claims 3 and 7, depends on, Gong further discloses:

the parameters of the background model are determined based on a first sample period (sample period for background noise is determined before speech utterance, Fig. 2);

the parameters of the transducer model are determined based on a second sample period (sample period for transducer model takes place during one-time adaptation (calibration), which takes place before on-line adaptation and thus inherently requires a second, distinct sampling, col. 5, lines 23-28)

Neither Gong nor Digalakis et al. nor deVries teach comparing confidence scores to determine weather to perform the ASR process again.

However, Waibel et al. teach

the confidence score is compared to a predetermined value (threshold value) in order to determine weather to perform the automatic speech recognition process again (repeat again, col. 1, lines 56-59).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Gong in combination with the speech

recognition systems of Digalakis et al. and deVries into Thrasher's method so that the confidence score is compared to a predetermined threshold value to repair misrecognition of speech. (Waibel col. 1, lines 9-12).

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from


Art Unit: 2654

the examiner should be directed to Myriam Pierre whose telephone number is 571-272-7611. The examiner can normally be reached on Monday - Friday from 5:30 a.m. - 2:00p.m.

6. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

7. Information as to the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

09/08/2005 MP

  
RICHEMOND DORVIL  
SUPERVISORY PATENT EXAMINER